

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/005881

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/115 C12N7/04 C12N15/86 A61K39/155

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K C12N A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 02/057302 A (VIROCLINCS B.V; DE JONG, JAN, CORNELIUS; FOUCHIER, RONALDUS, ADRIANUS,) 25 July 2002 (2002-07-25) cited in the application page 22, lines 24-30 page 23, line 6 - page 24, line 16 page 25, line 33 - page 26, line 18 page 69, lines 12-31 example 5</p> <p style="text-align: center;">----- -/-</p>	<p>1-10, 15-45, 50-61</p>

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

21 February 2005

Date of mailing of the international search report

11/03/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Brouns, G

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/005881

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>VAN DEN HOOGEN BERNADETTE G ET AL: "Analysis of the genomic sequence of a human metapneumovirus" VIROLOGY, vol. 295, no. 1, 30 March 2002 (2002-03-30), pages 119-132, XP004467149 ISSN: 0042-6822 cited in the application the whole document</p> <p>-----</p>	1-45, 50-61
A	<p>COLLINS P L ET AL: "Respiratory Syncytial Virus: Reverse Genetics and Vaccine Strategies" VIROLOGY, ACADEMIC PRESS, ORLANDO, US, vol. 296, no. 2, 10 May 2002 (2002-05-10), pages 204-211, XP004467197 ISSN: 0042-6822 the whole document</p> <p>-----</p>	1-45, 50-61
A	<p>CROWE J E: "Respiratory syncytial virus vaccine development" VACCINE, BUTTERWORTH SCIENTIFIC. GUILDFORD, GB, vol. 20, 15 October 2001 (2001-10-15), pages S32-S37, XP004307328 ISSN: 0264-410X paragraph '03.3!</p> <p>-----</p>	1-45, 50-61
P, X	<p>BIACCHESI S ET AL: "Genetic diversity between human metapneumovirus subgroups" VIROLOGY, ACADEMIC PRESS, ORLANDO, US, vol. 315, no. 1, 10 October 2003 (2003-10-10), pages 1-9, XP004469567 ISSN: 0042-6822 page 2, right-hand column, lines 1-5 page 8, left-hand column, last paragraph - right-hand column</p> <p>-----</p>	1
E	<p>WO 2004/027037 A (THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE SECRETARY OF THE D) 1 April 2004 (2004-04-01) paragraphs '0067!, '0312!</p> <p>-----</p> <p style="text-align: center;">-/-</p>	56-58

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/005881

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	TANG RODERICK S ET AL: "Effects of human metapneumovirus and respiratory syncytial virus antigen insertion in two 3' proximal genome positions of bovine/human parainfluenza virus type 3 on virus replication and immunogenicity." JOURNAL OF VIROLOGY, vol. 77, no. 20, October 2003 (2003-10), pages 10819-10828, XP002318487 ISSN: 0022-538X figure 1	56-58
P,X	----- WO 03/072719 A (MEDIMMUNE VACCINES, INC; VIRONOVATIVE BV; HALLER, AURELIA; TANG, RODER) 4 September 2003 (2003-09-04) examples 23,24 figures 27-29	59
T	----- BIACCHESI STÉPHANE ET AL: "Recombinant human Metapneumovirus lacking the small hydrophobic SH and/or attachment G glycoprotein: deletion of G yields a promising vaccine candidate." JOURNAL OF VIROLOGY. DEC 2004, vol. 78, no. 23, December 2004 (2004-12), pages 12877-12887, XP002318326 ISSN: 0022-538X the whole document	1-45, 50-61
T	----- BIACCHESI S ET AL: "Recovery of human metapneumovirus from cDNA: optimization of growth in vitro and expression of additional genes" VIROLOGY, ACADEMIC PRESS, ORLANDO, US, vol. 321, no. 2, 10 April 2004 (2004-04-10), pages 247-259, XP004499206 ISSN: 0042-6822 the whole document	1-45, 50-61
T	----- SKIADOPOULOS MARIO H ET AL: "The two major human metapneumovirus genetic lineages are highly related antigenically, and the fusion (F) protein is a major contributor to this antigenic relatedness" JOURNAL OF VIROLOGY, vol. 78, no. 13, July 2004 (2004-07), pages 6927-6937, XP002318327 ISSN: 0022-538X ----- -/--	1-45, 50-61

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/005881

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
T	HERFST SANDER ET AL: "Recovery of human metapneumovirus genetic lineages A and B from cloned cDNA" JOURNAL OF VIROLOGY, vol. 78, no. 15, August 2004 (2004-08), pages 8264-8270, XP002318488 ISSN: 0022-538X -----	1-45, 50-61

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/005881

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 52-55 are directed to a method of (prophylactic) treatment of the human/animal body, the search has been carried out and based on the alleged effects of the composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/005881

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 02057302	A	25-07-2002	BR 0206591 A	01-02-2005
			CA 2435180 A1	25-07-2002
			EP 1351981 A2	15-10-2003
			JP 2004531220 T	14-10-2004
			WO 02057302 A2	25-07-2002
			NO 20033272 A	18-09-2003
			US 2004005544 A1	08-01-2004
			ZA 200305655 A	22-07-2004
			US 2003232061 A1	18-12-2003
WO 2004027037	A	01-04-2004	WO 2004027037 A2	01-04-2004
			US 2004204581 A1	14-10-2004
WO 03072719	A	04-09-2003	AU 2003219837 A1	09-09-2003
			AU 2003219839 A1	09-09-2003
			CA 2477234 A1	04-09-2003
			CA 2477235 A1	04-09-2003
			EP 1485468 A2	15-12-2004
			WO 03072719 A2	04-09-2003
			WO 03072720 A2	04-09-2003
			US 2003232326 A1	18-12-2003
			US 2004005544 A1	08-01-2004
			US 2003232061 A1	18-12-2003
			US 2004005545 A1	08-01-2004